DOCUMENT RESUME

ED 426 458 EA 029 520

AUTHOR Geijsel, Femke; Sleegers, Peter; Berg, Rudolf van den

TITLE The Need for Transformational Leadership in Large-Scale Innovation: The Case of The Netherlands.

PUB DATE 1998-04-00

NOTE 29p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Diego, CA, April 13-17, 1998).

PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.

DESCRIPTORS Administrator Effectiveness; Educational Change; Foreign Countries; *Instructional Leadership; Leadership Qualities; Secondary Education; *Teacher Administrator Relationship; Teacher Attitudes

IDENTIFIERS Netherlands

ABSTRACT

In The Netherlands, schools are becoming more and more responsible for the successful implementation of large-scale innovations initiated by governmental policy. The nature of transformational leadership and its relation to teachers' changed practice within the Dutch context of school restructuring and change is examined in this paper. The paper presents two qualitative studies that resulted in defining three dimensions of transformational leadership: vision, individual consideration, and intellectual stimulation. The first study involved a group of high-innovative and a group of low-innovative secondary schools, whereas the second study entailed a survey of 1,249 teachers who taught in the Dutch Agricultural Training Centers. Within the framework of the survey, these dimensions were further operationalized and related to teachers' concerns and teachers' changed practices. The results indicate direct and indirect significance of the dimensions of transformational leadership in relation to teachers' changed practices. The results seem to support Hallinger and Heck's assumption that leadership impact is likely to be indirect by nature, which calls for the use of more comprehensive models in leadership studies. Based on these findings, the use of intervening constructs and leadership impact are discussed. (Contains 41 references, 3 figures and 8 tables.) (RJM)

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ED 426 458

The need for transformational leadership in large-scale innovation: The case of The Netherlands

Femke Geijsel, Peter Sleegers
and Rudolf van den Berg

University of Nijmegen,
Nijmegen, The Netherlands

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Paper presented at the AERA-conference in San Diego

April 1998

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ABSTRACT

This paper examines the nature of transformational leadership and its relation to teachers' changed practice within the Dutch context of school restructuring and change. Two qualitative studies and a survey are presented. The qualitative studies have resulted in defining three dimensions of transformational leadership: vision, individual consideration, and intellectual stimulation. Within the framework of the survey, these dimensions were further operationalized and exploratively related to teachers' concerns and teachers' changed practices. The results indicate direct and indirect significance of the dimensions of transformational leadership in relation to teachers' changed practice. Based on these findings, the use of intervening constructs in further research into leadership impact is discussed.

INTRODUCTION

In The Netherlands, as in many other countries, schools currently become more and more responsible for the successful implementation of large-scale innovations initiated by governmental policy. Large-scale innovations can be distinguished from small-scale innovations by their complexity and multidimensionality, attempting to accomplish several objectives simultaneously and coherently (van den Berg, 1992). In order to implement these innovations in a successful way disruptive changes in the organizations of schools are necessary. Salisbury and Conner (1994) refer to these changes as transitions that disrupt people's expectations of their job content resulting in new concerns and feelings of uncertainty. This makes specific leadership necessary. For minor or small-scale changes, traditional leadership seems to be sufficient. In the case of large-scale innovation, however, traditional leadership is simply not good enough (e.g. Leithwood, 1992; Mitchell and Tucker, 1992). The last decade more and more empirical evidence emerges for the importance of transformational leadership within the context of school restructuring (e.g. Leithwood, Tomlinson, and Genge, 1996). Transformational leadership appears to be necessary to drive teachers to higher levels of concern and motivation which is needed for educational improvement (van den Berg and Sleegers, 1996a; Leithwood, 1994).

The purpose of the studies presented in this paper is to examine transformational leadership within the afore mentioned Dutch context of school restructuring and change. The results of the research reported in this paper lead to a

better understanding of transformational leadership - as a conceptual frameworks of Northern American origin - across nations and cultures.

CONCEPTUAL FRAMEWORK: NATURE AND EFFECTS OF TRANSFORMATIONAL LEADERSHIP

Transformational leadership is a term which is used more and more in relation to large-scale innovation in education (e.g. Leithwood, 1994). This form of leadership is considered to be crucial for the implementation of large-scale innovation by teachers (van den Berg & Sleegers, 1996a). Yet, the concept of transformational leadership is originally developed in non-school literature on leadership. Disillusionment with the outcomes of traditional task-oriented leadership had led to new theories about transformational leadership (e.g. Bass, 1990). In order to understand the concept of transformational school leadership, it is important to look first at these origins.

Non-educational settings

With Weber's (1964) ideas on power and charisma in his mind, Burns (1978) drew attention to the concept of 'transforming' leadership emphasizing the significance of interaction of leader and followers. Burns distinguished two forms of interaction: transactional and transforming. According to Burns, transactional leadership occurs when a person interacts with another person for the purpose of exchange valued things with no mutual pursuit of a higher purpose. In contrast, transforming leadership occurs "when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality" (Burns, 1979, p. 382).

Based upon Burns' theoretical ideas Bass and his associates (e.g. Bass, 1985; Bass and Avolio, 1994) have developed a model of transformational leadership and provided empirical evidence by doing extensive survey research on the nature of such leadership. Whereas Burns considers transactional and transformational leadership as two opposites, Bass and Avolio (1994) present both types as part of a dimension. Transactional leadership fosters the basic needs of followers emphasizing the transaction or exchange between leaders and their followers

characterized by *management by exception*[1] and *contingent reward*[2]. This is sufficient to remain the status quo in schools. Yet, in order to achieve change and innovation, transformational leadership is necessary to "motivate others to do more than they originally intended and often even more than they thought possible" (Bass and Avolio, 1994, p. 3). Transformational leaders achieve superior results by operating the four i's (cf. Bass and Avolio, 1994, p. 3-4):

- *Idealized influence*: being role models for their followers;
- *Inspirational motivation*: motivating and inspiring followers by providing meaning and challenge to their work;
- *Intellectual stimulation*: stimulating followers' efforts to be innovative and creative;
- *Individualized consideration*: paying special attention to each individual's needs for achievement and growth.

Bass and his associates have done a lot of research to identify the dimensions of transactional and transformational leadership (e.g. Bass, 1990; Bass and Avolio, 1994). It was found that dimensions of transformational and transactional leadership indeed are related in the sense that transformational leadership augments transactional leadership: transformational leaders score higher on dimensions of transactional leadership than non-transformational leaders. It was also found that very successful champion leaders of business innovations did score significantly higher on dimensions of transformational leadership than matched leaders of established businesses (Bass, 1990). In the current area of continuing demands for innovations in school organizations, it is therefore not surprising that the concept of transformational leadership is applied to educational settings.

Educational settings

The research into transformational leadership in educational settings was started by Leithwood and his colleagues from the Ontario Institute for Studies in Education (Toronto, Canada) at the late eighties, early nineties. Leithwood's research concerns not only the nature of transformational school leadership but also internal processes of transformational school leaders as well as the effects of such leadership on school, teacher, and student outcomes. With regard to transformational school leaders' internal processes, Leithwood and Stager (1989)

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[1]Management by exception: This involves behavior on the part of the leader in response to problems arising from the practices of others in the school (Leithwood, 1994).

[2]Contingent reward: The leader tells staff what to do to be rewarded for their efforts. Giving the influence of positive feedback on emotional arousal processes, this dimension is potentially transforming as well (Leithwood, 1994).

report high levels of problem solving expertise. The results of Leithwood's studies for the nature of school leadership -based on the work of Burns and Bass as mentioned above- identify specific dimensions of transformational school leadership as well as behaviors associated with each of these dimensions. The following three dimensions of transformational school leadership appear to be the most relevant (Leithwood, Tomlinson & Genge, 1996):

- *Charisma/ inspiration/ vision*: inspiring teachers to engage in their work by developing, identifying and articulating a vision;
- *Individual consideration*: behaving with concern and respect for personal feelings and needs of teachers;
- *Intellectual stimulation*: challenging teachers to develop themselves professionally in such a way that the organization is learning as a whole.

These dimensions of transformational school leadership strongly resemble Bass and Avolio's (1994) four i's as mentioned above. The difference consist in two 'i's' (Idealized influence and Inspirational motivation) that are joined together within Leithwood's dimension of charisma/ inspiration/ vision. Other dimensions found in Leithwood's studies, but with too little evidence yet to state their relevancy, are: *structuring, culture building, high performance expectations,* and *modelling*. The dimensions of transactional leadership appear to be either conflicting (*contingent reward*) or irrelevant (*management by exception*) for school leaders (Leithwood, Tomlinson, and Genge, 1996).

With regard to the nature of the relationship between transformational and transactional school leadership and its effects on educational improvement, Silins (1994) reports a relevant study. Like afore mentioned researchers, Silins finds transformational leadership reflected in the three core dimensions: *charisma/inspiration, individual consideration,* and *intellectual stimulation*. Transactional leadership appears to be defined positively by *contingent reward* and negatively by *management by exception*. Furthermore, her results demonstrate that transactional school leadership indeed is strongly dependent on transformational school leadership in conformance with Bass' notions (as explained in the previous section).

Leithwood, Tomlinson and Genge (1996) report on effects of transformational school leadership found on perceptions of leader effectiveness, on behavior of teachers, on teachers' psychological states, on organizational learning and improvement as well as culture, and (though yet very little) on students. Most of these effects, especially the stronger ones, could be ascribed to the three most relevant dimensions of transformational leadership as mentioned above.

By finding empirical evidence for the existence of transformational leadership in schools, Leithwood and his associates made it clear that transformational leadership indeed is an important concept for schools in current society. In the Netherlands, a tendency towards a more decentralized policy together with an increase in competitive forces and debureaucratization of Dutch society makes it necessary for schools to reform. So, transformational leadership is most likely to be of importance in Dutch schools as well (cf. van den Berg & Sleegers, 1996a).

In this paper, the nature of transformational leadership in Dutch schools and the relationship between transformational school leadership and teachers' changed practice will be examined. For this purpose, two qualitative studies and a survey were conducted. The next section starts with two qualitative studies that were undertaken in respectively secondary and primary education.

METHOD OF THE TWO QUALITATIVE STUDIES

Sample

In 1993, a small group of Dutch researchers set up a strategy to examine the concept of innovative capacity of schools (cf. van den Berg & Sleegers, 1996a). First, a review of literature on innovative organization was done, resulting in the defining the main components. Transformational leadership was discerned as one of these components. Then, two qualitative studies were undertaken to examine the components exploratively. For the purpose of this paper, the presentation of the studies on innovative capacity will be restricted to the data with regard to transformational leadership. For a full description of the studies the reader is referred to van den Berg and Sleegers (1996b), and Geijsel, van den Berg and Sleegers (1998).

For the first qualitative study, a group of high innovative and a group of low innovative secondary schools were selected. This selection was based on two criteria: (1) the school began early with the preparation for a current compulsory innovation at that time and (2) the school has a tradition of quickly and frequently implementing innovations. For the second study a group of high innovative and a group of low innovative primary schools were selected. In addition to the two criteria a third criterion was the basis for this selection: (3) the opinions of the external school supporter for the region on the innovation practices of the school.

Table 1 shows the amount of schools, teachers and school leaders that participated in the research.

Table 1: Samples of both qualitative studies

	High innovation schools	Low innovation schools	Total
Secondary education (1992-1993)	5 schools - 25 teachers	4 schools - 21 teachers	9 schools - 46 teachers
Primary education (1993-1994)	6 schools - 39 teachers - 6 school leaders	4 schools - 15 teachers - 4 school leaders	10 schools - 54 teachers - 10 school leaders

Teachers and school leaders of the selected schools were interviewed. In both studies interview questions were grouped under a number of topics and served as a guide for the interview. Also in both studies, the implementation of a large-scale innovation was taken as the starting point for the interviews.

Data analysis

All interviews were audio recorded and transcribed. These interview protocols constituted the raw material in both studies. This material was analyzed qualitatively. All protocols were divided into a number of text fragments. In the first study, each text fragment was then assigned to a keyword to indicate the subject of the text. This assignment of keywords was performed with the aid of the computer program KWALITAN (Peters, Wester, and Richardson, 1989), which is a data base program that enables one to order raw (interview) material in a simple manner. The keywords were further ordered on the basis of the conceptual framework stemming from the review of literature in innovative organizations. The final keywords of the first study were the starting point for the qualitative data analysis of the interview protocols in the second study. With the aid of a computer program called TEXT-TABLE (Welten & Janssen, 1993) the text fragments were classified into categories. These categories were then classified as pertaining to one of the components of innovative capacity. This classification was largely based on the available literature. For a more detailed description of the review of literature, the research design, and the methods of data collection and analyses of both

studies, the reader is referred to van den Berg and Sleegers (1996a; 1996b), and Geijsel, van den Berg, and Sleegers (1998).

Reliability

In qualitative research, intersubjectivity is an important procedure for enlarging the reliability of the analyses. Intersubjectivity means consensus between researchers. Smaling (1992, pp. 170-173) describes three traditional forms and two alternative forms of intersubjectivity.

Consensual intersubjectivity refers to consensus between the researchers on the interpretation of the data. The data analysis in each of the present studies was done by two researchers. They executed the analysis constantly striving for consensus with both of their judgements considered equal. In this way, consensus was reached on each of the text fragments. Furthermore, the assignment of the keywords and categories to the components of innovative capacity was an iterative process in which the supervisors were also involved. In this process consensus was also reached in the end. *Intersubjectivity by regimentation* refers to a strict regulation of the data-collection techniques to minimize any differences between the researchers. For this purpose, all interviews of the first study and the first six interviews of the second study were done by the two interviewers in each other's presence. One interviewer asked the questions while the other critically listened. Afterwards, each interview was carefully evaluated with an eye to the conduct of consistent and similar interviews. *Intersubjectivity by explicitness* refers to being as explicit as possible about the materials, methods, design and arguments for the selection of these. For this purpose, each of the steps in the present studies was carefully described and justified (Bakx & van der Eerden, 1993; Geijsel, 1994). A less widespread form of intersubjectivity is *argumentative subjectivity*. This is based on the assumption that the growth of scientific knowledge cannot continue without discussion and argumentation. According to Smaling (1992), methodological discussion as well as equivalence between the researchers are of central importance to this form of intersubjectivity. Both occurred in this study. *Dialogical intersubjectivity* is also a less widespread form of intersubjectivity. Consensus is necessary, not only between researchers, but also between researchers and respondents. This can be gained by providing feedback based on the results of the study and interpreting reactions of the respondents to the feedback. In the present studies, each of the participating schools received a feedback report. The school also had the opportunity to discus the report with the researchers and a few schools did.

RESULTS AND CONCLUSIONS OF THE QUALITATIVE STUDIES

Results

The results with regard to transformational leadership in secondary education are presented in Table 2 (see also van den Berg & Sleegers, 1996b). As mentioned above, the interviews were analyzed qualitatively by relating statements of the interviewees to key words[3]. In Table 2, those key words with a relatively large difference in the numbers of statements produced by the 46 interviewees of the high and low innovation schools are shown.

Table 2: Overview of key words relevant to transformational leadership for each group of secondary schools[4]

Key word	Total number of statements for high innovation group	Total number of statements for low innovation group
Task construction		
Realization of a target idea	53	18
No common / educational vision	5	20
Team building	33	2
Contact		
Low-barrier school leadership	11	5
High-barrier school leadership	7	11
Initiatives		
Stimulated	34	8
Not stimulated	3	14
Personnel policy		
Cultural maintenance	7	0
Personnel care	12	3
Decision making		
On the basis if staff meetings	14	4

The results show that in high innovation schools school leaders attempted to create and realize a target idea (realization of a target idea). In low innovative schools,

[3]For a full description of these key words the reader is referred to van den Berg and Sleegers (1996b).
[4]This table is also presented by van den Berg and Sleegers (1996a, p. 681).

this proved to be much less the case (no common/educational vision). School leaders in high innovative schools also appeared to create a supportive atmosphere among the members of the teaching team (team building). The contact between the school leaders and the teachers was also judged to be satisfactory in the high innovative schools (supportive school leadership). In addition, initiatives in high innovative schools were stimulated by the school leaders; this was less so in the low innovative schools. In high innovative schools, the school leaders considered it important to maintain or improve the existing culture. School leaders also paid a lot of attention to the well-being of the teachers (personnel care). In the high innovation group, final strategic decisions predominantly were made in the staff meeting.

In sum, the school leaders of the high innovation schools for secondary education showed more vision and more support, more stimulus of initiatives, more care for the personnel as well as the cultural climate in the school, and more involvement in decision making than the school leaders of the low innovation schools for secondary education.

The results with regard to transformational leadership in primary education are presented in Table 3 (see also Geijsel, van den Berg & Sleegers, 1998). Again, the interviews were analyzed qualitatively by relating statements of the interviewees to key words. The key words of the previous study were the basis for this analysis. In Table 3, all key words[5] of this study with regard to transformational leadership are shown. The number of statements produced by the 64 interviewees of the high innovation and low innovation schools are presented in the rows.

The school leaders of the high innovative primary schools could be characterized by their vision of education and of the school. Leaders in these schools had a certain charisma that inspired the teachers, but they could also take firm position of their own when necessary. The school leaders worked continuously on the realization of his or her vision, consciously initiating innovations in the school, and using his or her powers of persuasion to motivate the team. At the same time, the leaders showed respect for the ideas of others and understanding for their personal needs and feelings. They delegated responsibilities; without neglecting them. A great deal of attention was also paid to the creation of a joint plan of responsibility. In such a way, collaboration had become self-evident and could be further stimulated. The school leaders of the low innovative schools showed a very different image. Many of the respondents in these schools were of the opinion that their schools leader had no educational vision. The school leaders' ideas on teaching in these schools were conservative and in favor of traditional teaching. The leaders

[5]For a full description of these key words the reader is referred to Geijsel (1994).

also were much less of an initiator; nor a motivator; nor a inspirator. Personal needs and feelings were rarely considered and the delegation of responsibility was inadequate. The school leaders of the low innovative schools also made little attempt to create a shared plan for responsibility for innovation and change.

Table 3: An overview of key words relevant to transformational leadership for each group of primary schools[6]

Key words	Total number of statements for high innovation group	Total number of statements for low innovation group
Vision	38	17
No vision	1	43
Charisma	22	0
No charisma	0	38
Innovation	62	7
Traditional teaching	0	26
Sufficient individual feedback	27	5
Insufficient individual feedback	4	12
Adequate delegation	48	5
Inadequate delegation	12	38
Joint goals	41	2
Collaborative culture	41	2
Joint responsibility	7	2
No joint responsibility	0	47

In sum, the school leaders of the high innovation schools for primary education showed more vision, more charisma, more reformed teaching, more individual feedback, better delegation, more joint responsibility, and a more collaborative culture than the school leaders of the low innovation schools for primary education.

Conclusions

With regard to the nature of transformational leadership within the Dutch context of school restructuring and change, both studies show that the following three features are of importance.

[6] This table is also presented by van den Berg and Steegers (1996a, p. 685).

Vision. The following key words refer to this concept: realization of a target idea; no common/educational vision; team building; cultural maintenance; (no) vision; (no) charisma; joint goals; (no) joint responsibility.

Individual consideration. The following key words refer to this concept: low/high-barrier school leadership; personnel care; (in)sufficient individual feedback.

Intellectual stimulation. The following key words refer to this concept: (not) stimulated initiatives; decision making on the basis of staff meeting; innovation; traditional teaching; (in)adequate delegation.

It can be concluded that the features which we found in these studies match the dimensions of transformational school leadership as reported by Leithwood (1994)[7]. It appeared that high innovation schools show more transformational leadership than low innovation schools (see also: van den Berg and Sleegers, 1996a, 1996b; Geijsel, van den Berg, and Sleegers, 1998). It is therefore relevant to further examine transformational leadership within the Dutch context of school restructuring and change.

INTERMEDIATE DISCUSSION AND CONCLUSIONS

In order to further examine transformational leadership in Dutch schools, we developed a questionnaire to measure the three important dimensions of transformational leadership. In developing this questionnaire, first the conceptual view on leadership had to be further clarified, because this influences the way in which leadership dimensions are operationalized. In the last decades there has been a shift in the conceptualization of leadership. The traditional interest in leaders and their actions is converted into an interest in followers' perceptions of leadership (Duke, 1996). The focus in the study of leadership has shifted from 'what leaders do' to 'how followers make sense of what leaders do' (Duke, pp. 842). Consequently, leadership is interpreted more and more as a form of social influence (Gronn, 1996; Gronn & Ribbins, 1996; Hallinger & Heck, 1996). Leadership is than described as "...shared power and influence across multiple organizational roles and hierarchies rather than primarily focusing on the traits or behaviors of individuals in positions of formal authority. This perspective includes both a broader conceptualization of leadership and a broader focus than that of the individual" (Pounder & Young, 1996, pp. 281).

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[7]We choose to speak only of vision - in stead of Leithwood's charisma/ inspiration/ vision - because vision is most commonly accepted in Dutch society.

In this line of thinking, Ogawa and Bossert (1995) define leadership as an organizational quality, which sets leadership's parameters at the level of the organization, rather than at the level of individual behavior. Leadership is assumed to influence the system of interactions that constitute an organization. In this way, leadership involves the shaping of the organization's culture which produces patterned behaviors and interactions. However, it appears unclear how this organizational leadership is supposed to be studied empirically. Gronn and Ribbins (1996) plea for ethnographic research. Firestone (1996) offers opportunities by emphasizing leaderships functions in stead of roles: "... another way to think of leadership is not as something that people in positions do but rather a set of functions that must be performed if the organization is to survive, prosper, or perform, effectively. From this perspective, the key question is not 'what do leaders do?' but 'what tasks must be performed, and who does them?'" (Firestone, 1996, pp. 396).

Nowadays interest in transformational (school) leadership is connected with these new perspectives on leadership (Firestone, 1996; Gronn, 1996). In anticipation with these new perspectives, the question is to which extend teachers perceive vision, individual consideration, and intellectual stimulation within the school organization as dimensions of transformational leadership.

Thus, vision is more than merely a statement written down by the school leader. Vision should be alive; it should be perceived (cf. Fullan, 1993; Senge, 1990). Vision exists when teachers participate in the creation and maintenance of the school's vision.

Individual consideration exists when teachers feel that they are respected and when teachers experience concern for their personal feelings and needs. It is less important who exactly is responsible for these experiences as long as good work and effort is recognized.

Intellectual stimulation means teachers feel themselves intellectually and professionally challenged and stimulated. Also, teachers should experience structural financial support for their professional development.

The preceding reflections on the concept of leadership and their consequences for the operationalization of the three dimensions of transformational school leadership have formed the starting point for our survey into transformational leadership in Dutch schools. In the next sections, the framework, method, and results of this survey will be described.

FRAMEWORK OF THE SURVEY

Like the afore presented qualitative studies, our survey into transformational leadership is part of the research strategy into innovative capacity as mentioned earlier in this paper. The purpose of the research into innovative capacity is to explore the main conditions for educational improvement and implementation of large-scale innovation. Within the framework of this research, transformational leadership is seen as an important condition for teachers' changed practice (Van den Berg & Sleegers, 1996a). This concept fits into a organizational point of view on educational improvement - as can also be concluded from the intermediate discussion as described above. According to van den Berg and Sleegers (1996a), besides an organizational point of view, also a individual point of view is necessary in studying conditions for educational improvement. Based on the results of the research into the *Concerns-Based Adoption Model* (Hall & Hord, 1987; van den Berg, 1993), Van den Berg and Sleegers (1996a) conclude that individual concerns of teachers have great influence on the implementation of innovations. To answer the second research question of this paper, i.e. the relationship between transformational school leadership and outcomes of educational improvement within the Dutch context of restructuring and change, both perspective will therefore be part of the framework for our survey. This leads to the following conceptual framework for the survey on transformational leadership (see Figure 1).

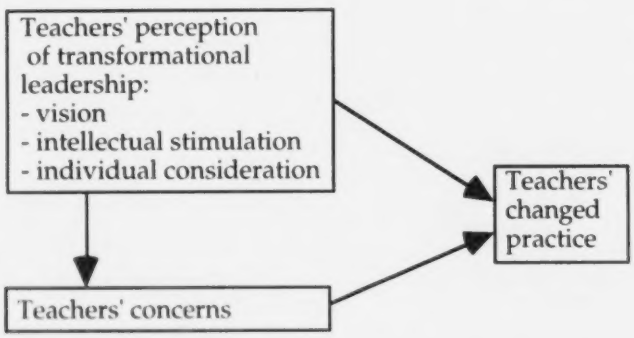

Figure 1: Conceptual framework of the quantitative study

This framework set out to examine the three dimensions of transformational leadership and their relations towards teachers' concerns and teachers' changed practice. The next sections of this paper present method, results and conclusions of

the survey with regard to this framework. For a full description of this survey study, the reader is referred to Ross, Swinkels-Kuijlaars, Theunissen, Visser, Jongmans, and Geijsel (1996).

METHOD OF THE SURVEY

Variables in the study

Each of the variables distracted from the conceptual framework was operationally defined in items.

Transformational leadership

In accordance with the intermediate conclusions as described above, 'vision' was operationalized in nine items expressing teachers' participation in the creation of vision. 'Intellectual stimulation' was operationalized in three items expressing the support of school leaders for the professional development of teachers. To measure 'individual consideration' eight items were formulated expressing the appreciation and respect of the school leaders for teachers as persons.

Concerns

'Concerns' are reflected in ten items expressing teachers' concerns with regard to the day-to-day pressures to innovate and change. These items are developed on the basis of the research into the Concerns-Based Adoption Model (CBAM) within The Netherlands and Flanders (cf. van den Berg, 1993). An evaluation of this research (cf. van den Berg & Vandenberghe, 1995) has led to the notion of relating concerns to the implementation of innovations in general in stead of relating concerns to the implementation of a specific part of an innovation program (Geijsel, 1994). This new notion of concerns is reflected in the items of 'concerns'.

Changed practice

'Changed practice' is defined as a variable to measure educational improvement outcomes. This variable is operationally defined in ten items on changed teaching material and methods as a results of current innovation.

Table 4 shows the translated items for these five variables. For the items on 'vision', 'individual consideration', 'concerns', and 'changed practice' the respondents were given the following response categories: (1) I disagree; (2) I disagree a little; (3) I agree a little; and (4) I agree. For the items on 'intellectual stimulation' the respondents were given the following response categories: (1) never; (2) sometimes; (3) often; (4) always.

Table 4: Translated operational definitions of variables

Items with regard to vision	
vis1	In our school we have a clear vision on what we think that 'good education' means
vis2	In our school we know about what comes and goes
vis3	In our school we know about educational developments outside the school
vis4	In our school one has attention to my ideas about education
vis5	In our school we discuss what we want to achieve with our lessons
vis6	In our school I am constantly motivated to regard my own educational practices critically
vis7	It is expected that I think about strategies of our school with regard to educational practices
vis8	In our school w regard our joint goals critically
vis9	In our school new ideas are brought up regularly
Items with regard to individual consideration	
ic1	If I have problems concerning my work, I can count on my superiors to support me
ic2	I have the feeling that my superiors are kindly disposed to me
ic3	My superiors have respect for the work of teachers
ic4	My superiors show interest in me as a person
ic5	My superiors take my educational opinions seriously
ic6	My superiors rarely talk about the things that go well at school
ic7	My superiors show their appreciation for the work that I do
ic8	My superiors appreciate teachers taking initiative in our school
Items with regard to intellectual stimulation	
is1	In our school it is difficult to get financial support for retraining activities
is2	My superiors create opportunities for teacher to develop professionally
is3	In our school teachers have opportunities to participate in retraining activities during school working ours
Items with regard to concerns	
cfc1	I worry about the rate of educational developments that currently are initiated by the government
cfc2	I wish everything carries on in the same way as much as possible
cfc3	I consider myself capable of dealing with all changes at the time
cfc4	The current flow of innovations is a challenge for me as a teacher
cfc5	All these changes and innovations make me feel loosing control in my profession as a teacher

cfc6	Because of all the changes at the time I don't know what I am up to as a teacher anymore
cfc7	Because of all the changes at the time I wonder if I am still able to deal with my job content
cfc8	Because of all the changes at the time I increasingly doubt if I am capable to practice my profession
cfc9	Because of all the changes at the time I feel left to my own devices
cfc10	Because of all educational developments I don't know anymore my own teaching should be about
Items with regard to changed practice	
Compared to the period before the innovation program, ...	
cpA	... my instruction is less whole class oriented
cpB	... pupils more often have to work on tasks
cpC	... I more often give pupils tasks that involve doing small-scale research
cpD	... my teaching is more about practical matters
cpE	... the examples that I give are more practical
cpF	... my pupils work more autonomously
cpG	... I use more different teaching methods and instruction formats
cpH	... I use more different teaching material
cpI	... I lay more emphasis on the way problems should be dealt with in stead of the problem itself
cpJ	... I differentiate more

To verify the validity of the operational definitions several teachers of different schools were asked to check the quality of the items. Their remarks were taken into account.

Sample

This survey took place in the Dutch 'Agricultural Training Centers (ATC's). ATC's provide pre-vocational education and senior secondary vocational education with regard to agriculture. Each of the eighteen ATC's in the Netherlands was asked to participate in this research. Fourteen ATC's have agreed. All teachers received the questionnaires from their superiors; 49 percent did respond, a total of 1249 teachers.

A number of **662** teachers worked in the pre-vocational education department of an ATC. These teachers currently have to implement a new core curriculum. A number of **587** teachers worked in the senior secondary vocational education

department of an ATC. These teachers currently have to implement new structure of qualifications. This distinction is important with regard to the variable 'changed practice'. The items of this variable refer to these innovations.

Data analyses

Principal components analyses and reliability analyses were executed to examine whether the data can be reduced to scales. Correlation and regression analyses were executed to explore the relationships between the variables of transformational leadership (vision, individual consideration, and intellectual stimulation), 'concerns', and 'changed practice'. Because 'changed practice' refers to a current innovation programs that differs for the two groups of teachers - as mentioned above -, the analyses with regard to this variable are executed twice. 'Changed practice-P' refers to the teachers of the pre-vocational education department. 'Changed practice-S' refers to the teachers of the senior secondary vocational education department.

RESULTS OF THE SURVEY

Results

In order to reduce the data by scale construction, principal components analyses were done to examine the unidimensionality of the items per variable. Table 5 shows the results.

Table 5: KMO-value and percentage explained variance of the five scales

	KMO-value[8]	explained variance
Vision	.93	52.4 %
Individual consideration	.91	56.6 %
Intellectual stimulation	.64	61.3 %
Concerns	.90	47.8 %
Changed practice-P	.92	59.0 %
Changed practice-S	.91	57.8 %

[8]The KMO-value indicates the extend to which a collection of items is appropriate for factor analyses.

These results show that the items of each variable are unidimensional, except in the case of 'intellectual stimulation'. The KMO-value of this variable indicate that these items do not scale very well.

To examine the reliability of the scales, Cronbach's alpha was calculated. Table 6 shows the results.

Table 6: Number of cases, number of items, and Cronbach's alpha of each scale

	n of cases	n of items	Cronbachs α
Vision	1118	9	.89
Individual consideration	1137	8	.88
Intellectual stimulation	1079	3	.68
Concerns	1168	10	.88
Changed practice-P	498	10	.92
Changed practice-S	492	10	.92

These results also show that the scale 'intellectual stimulation' is less reliable. The reliability of the other scales is satisfying according to the alpha values. Table 7 shows the means and standard deviations of the scales[9].

Table 7: Mean and standard deviation of the scales

	mean	standard deviation	n of cases
Vision	2.86	.67	1211
Individual consideration	3.11	.63	1209
Intellectual stimulation	2.70	.70	1189
Concerns	2.21	.64	1208
Changed practice-P	2.44	.78	530
Changed practice-S	2.65	.74	524

Considering these results, it appears that the teachers of the ATC's think quite positively about the extend of transformational leadership in their schools. The teachers report that they quite often participate in the creation of a vision. They also report that their superiors show respect and appreciation for teachers as

[9]To compute these results, the following items were recoded: ic6, is1, cfc3, and cfc4.

individuals. With regard to 'intellectual stimulation', teachers are quite often supported in their professional development. Furthermore, teachers do not feel very concerned with regard to day-today pressure of innovations. Teachers of the senior vocational education department seem to have changed their practice a little bit more than the teachers of the pre-vocational education department of the ATC's, according to their own opinions. Both groups, however, indicate that their practices did not change radically.

In addition to the results presented in Table 7, t-tests showed that teachers of the pre-vocational education department score significantly higher on 'vision', 'individual consideration', 'intellectual stimulation', and 'concerns', than teachers of the senior vocational education department. However, the differences do not pass the extend of .15.

To examine the construct validity of the dimensions of transformational leadership, correlation analyses were executed concerning the three scales of transformational leadership. 'Vision' has a correlation of .54 with 'individual consideration' and a correlation of .28 with 'intellectual stimulation' (p=0.00 in both cases). 'Individual consideration' and 'intellectual stimulation' correlate .34 (p=0.00). These positive correlations indicate the scales of transformational leadership indeed measure different aspects of one construct.

To explore the relationships between the scales of transformational leadership and the other variables, correlation and regression analyses were executed. Table 8 shows the results of the correlation analyses.

Table 8: Correlations between variables of transformational leadership, concerns, and changed practices (p=.000, unless otherwise is indicated; italic=not significant)

Teaches in pre-vocational education (n=662):	concerns	changed practice-P	Teachers in senior vocational education (n=587):	concerns	changed practice-S
vision	-.22	.28	vision	-.24	.11
individual consideration	-.16	.16	individual consideration	-.31	*.07 (p=.092)*
intellectual stimulation	-.25	.12 (p=.005)	intellectual stimulation	-.18	.09 (p=.043)
concerns	--	-.17	concerns	--	-.21

These results show that almost all correlations are significant. Furthermore, all correlations point in the right direction. The three variables of transformational leadership correlate positively with 'changed practice' and negatively with teachers' 'concerns'. 'Concerns' and 'changed practice' also correlate negatively. None of the presented correlations, however, is very strong. 'Vision' appears to correlate the most strongly compared to the other variables, both in the pre-vocational group and in the senior vocational group of teachers[10].

Regression analyses can lead to better understanding of the joint influence of independent variables on dependent variables. To test the conceptual framework for this survey, regression analysis were computed with both the variables of transformational leadership and 'concerns' as the independent, and 'changed practice' as the dependent variable. The results of this analysis are presented in Figure 2. In this figure, the thick arrows refer to the results of the pre-vocational education teachers (n=662) and the thin arrows refer to the results of the senior vocational education teachers (n=587).

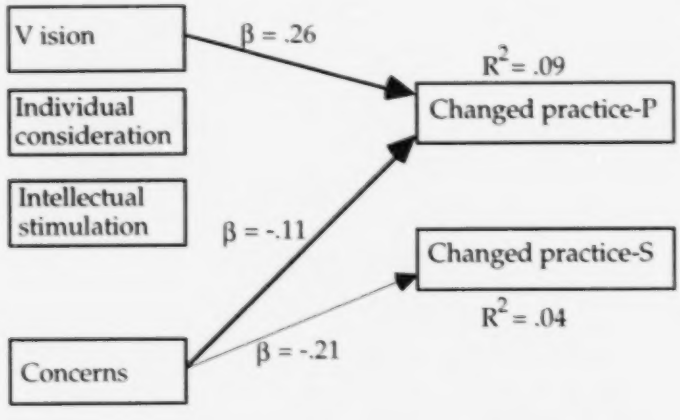

Figure 2: Standardized regression coefficients of significant regressions between variables of transformational leadership and concerns (independents), and changed practice (dependent) (R^2 = adjusted R Square) (method = stepwise)

The results of the regression analysis show significant effects of 'vision' and 'concerns' on 'changed practice-P'. If the extend to which teachers of pre-vocational education have perceived vision increases, the implementation of an innovation

[10]To compare the results of the pre-vocational and the senior vocational education department, the covariances between the variables were also computed. These figures are not reported here, because they indicate the same pattern as the correlations.

program results in more changes in their teaching practices. The more concerns teachers of pre-vocational education have regarding the day-to-day pressure of innovation, the less they change their teaching practices as a result of an innovation program. These effects explain nine percent of the variance of the dependent variable (F=25.53, p=.000). With regard to senior vocational education, the results of the regression analysis show a significant negative effect of 'concerns' on 'changed practice-S'. The more concerns teachers of senior vocational education have regarding the day-to-day pressure of innovation, the less they change their teaching practices as a result of an innovation program. This effect explains four percent of the variance of the dependent variable (F=23.18, p=.000).

The small percentages of explained variance give reason to assume that, besides these direct influences, also indirect influences could be of significance. This assumption is in line with Hallinger and Heck's (1996) conclusion - to their review of principal's role in school effectiveness - that more comprehensive models of principal leadership should be used to examine the nature and degree of leadership impact. Within such comprehensive models leadership the role of intervening variables is studied more extensively, starting from the assumption that leadership impact - especially in the case of transformational leadership - is likely to be indirect by nature anyway (cf. Hallinger & Heck, 1996; Heck & Marcoulides, 1996; Leithwood, 1994; Silins, 1996). For the variables in our framework, this means that transformational leadership dimensions are defined as independent variables, that teachers' concerns is defined as an intervening variable, and that teachers' changed practice is the dependent variable. Regression analyses were computed to examine this assumption - see Figure 3. Again, the thick arrows represent the results of the pre-vocational education teachers (n=662) and the thin arrows represent the results of the senior-vocational education teachers (n=587).

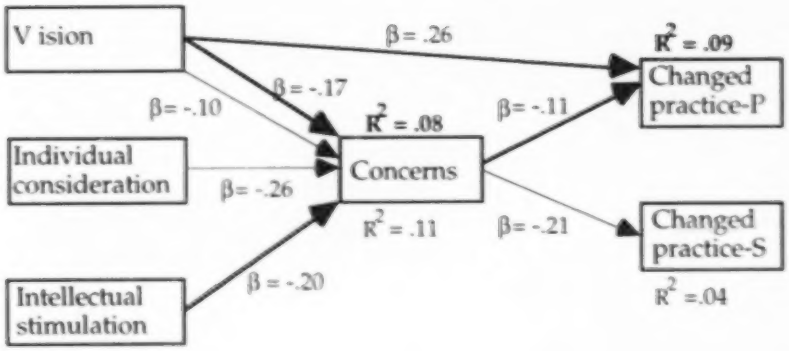

Figure 3: Standardized regression coefficients of significant regressions within the comprehensive model (R^2 = adjusted R Square) (method = stepwise)

Besides the direct effects of 'vision' and 'concerns' on 'changed practice-P' as already described in the first regression analysis, the results of the second regression analysis with regard to pre-vocational education show direct negative effects of 'vision' and 'intellectual stimulation' on 'concerns'. Apparently, the more vision and intellectual stimulation is perceived by the teachers of pre-vocational education, the less concerns they have. These two regressions of concerns account for eight percent explained variance (F=28.19, p=.000). This analysis shows modest indirect effects of 'vision' and 'intellectual stimulation' on 'changed practice'. The total effect of 'vision' on 'changed practice' can then be computed by multiplying the standardized regression coefficients of the indirect effect and adding this up to the standardized regression coefficient of the direct effect. The total effect of vision than is: .26 + (-.17 x -.11) = .28. This shows that the indirect effect of vision hardly contributes to the total effect of 'vision' on 'changed practice'.

With regard to senior vocational education, the second regression analysis shows significant direct effects of 'vision' and 'individual consideration' on 'concerns'. Apparently, the more vision and individual consideration is perceived by the teachers of senior vocational education, the less concerns they have. These regressions account for eleven percent explained variance in 'concerns' (F=34.69, p=.000). The indirect effects of 'vision' and 'individual consideration' on 'changed practice' are modest.

OVERALL CONCLUSIONS AND IMPLICATIONS

In this paper, qualitative and quantitative analyses have been executed to examine the nature of transformational leadership within the Dutch context of school restructuring and change. On the basis of the qualitative analyses three dimensions of transformational leadership were defined: vision, individual consideration, intellectual stimulation. A survey study was then executed to further operationalize and validate these dimensions (1) and to explore their relation towards teachers' concerns and teachers' changed practice (2).

Regarding the first research question, it was chosen to operationalize the dimensions of transformational leadership according to some new perspectives on the concept of leadership, emphasizing not so much the actual behavior of the leader himself, but more its impact on his or her followers. Factor and reliability analyses on the survey data have shown that the operationalizations of 'vision' and 'individual consideration' form good, reliable scales. 'Intellectual stimulation', however, needs better operationalization considering its KMO-value and reliability. Furthermore, the results of correlation analyses between the three scales have indicated that these scales measure different aspects of one construct, i.e. transformational leadership.

With regard to the second research question, it can be concluded that dimensions of transformational leadership indeed have significant impact on teachers' changed practices. Vision seems to be an important dimension for direct influence on teachers' changed practice. On the other hand, this dimension explains only nine percent of the variance, so its influence should not be overestimated. Individual consideration and intellectual stimulation can both be of importance to teachers' changed practice as well, but in indirect ways. These two dimensions have negative effects on teachers' concerns and, in turn, teachers' concerns have negative influence on teachers' changed practice. In drawing these conclusions, it should be taken into consideration that the two groups of teachers show different results. These differences have not been examined thoroughly, because of the explorative character of the second research question of the survey.

Implications for further research

The results as presented in this paper show that the concept of transformational leadership is relevant in the Dutch context of school restructuring and change. The findings of our study seem to be - at least partially - in support of Hallinger and Heck's (1996) assumption that leadership impact is likely to be indirect by nature,

which asks for the use of more comprehensive models in leadership studies. Within such comprehensive models, intervening construct - like teachers' concerns - can be defined starting from the significance of influences of individual characteristics. For instance, research of Berman and MacLaughin (1977) and Guskey (1988) has shown that weak efficacy beliefs of teachers have negative impact on the implementation of new instruction concepts and methods. Imants, Tillema and de Brabander (1993) also emphasize the importance of efficacy beliefs in relation to teacher learning and school improvement. Simultaneously, constructs at the organizational level could also be intervening as well in leadership impact on teachers and school restructuring. Heck and Marcoulides' (1996) study for the school culture and performance suggests several in-school processes - like organizational climate and values - to be intervening. Also, constructs like teachers' collaboration and teacher empowerment that both are relevance to school restructuring (Louis, 1994, Louis, Marks, and Kruse, 1996) deserve attention as intermediates.

Currently, further research into the concept of transformational leadership in The Netherlands is executed. Like the studies that are presented in this paper, this research is part of the research strategy into innovative capacity of schools. Besides dimensions of transformational leadership, teachers' concerns, and teachers' changed practice, also concepts of teachers' professional development, professional collaboration, and participation in decision making are applied. It is our intention to analyze these concepts comprehensively to gain further understanding of the nature of transformational leadership and its impact on educational improvement.

REFERENCES

Bakx, E., and Eerden, E., van der (1993). *Onderzoek naar het innovatief vermogen van scholen in het voortgezet onderwijs [Research into the innovative capacity of schools].* Nijmegen, The Netherlands: University, Department of Social Sciences.

Bass, B.M. (1985). *Leadership and performance beyond expectations.* New York: The Free Press.

Bass, B.M. (1990). *Bass & Stogdill's handbook of leadership; Third edition.* New York: The Free Press.

Bass, B.M. and Avolio, B.J. (1994). *Improving organizational effectiveness through transformational leadership.* Thousand Oaks: Sage.

Berg, R. van den (1992). Transformational education policy: Schools as strategic organization. *Knowledge: Creation, Diffusion, Utilization, 13* (4), 440-459.

Berg, R. van den (1993). The Concerns-Based Adoption Model in the Netherlands, Flanders and the United Kingdom: state of the art and perspective studies. *Educational Evaluation, 19*, 51-63.

Berg, R. van den, and Sleegers, P. (1996a). Building innovative capacity and leadership. In K.A. Leithwood (Ed.), *International Handbook of Educational Leadership and Administration*, pp. 653-700. Dordrecht, The Netherlands: Kluwer.

Berg, R. van den, and Sleegers, P. (1996b). The innovative capacity of schools in secondary education: A qualitative study. *International Journal of Qualitative Studies in Education, 9* (2), 201-223.

Berg, R., van den, & Vandenberghe, R. (Eds) (1995). *Wegen van betrokkenheid: Reflecties op onderwijsvernieuwing [Ways of concenrs: Reflections on educational improvement]*. Tilburg, The Netherlands: Zwijsen.

Berman, P. & McLaughlin, M.W. (1977). *Federal programs supporting educational change. Vol. II: Factors affecting change agents projects*. Santa Monica, CA: Rand Corporation.

Burns, J.M. (1978). *Leadership*. New York: Harper & Row.

Burns, J.M. (1979). Two excerpts from leadership. *Educational Leadership, 36*, 380-383.

Duke, D.L. (1996). Perception, prescription, and the future of school leadership. In K. Leithwood, J. Chapman, D. Corson, Ph. Hallinger, and A. Hart, *International Handbook of Educational Leadership and Administration*, pp. 841-872. Dordrecht, The Netherlands: Kluwer.

Firestone, W.A. (1996). Leadership: Roles or functions? In K. Leithwood, J. Chapman, D. Corson, Ph. Hallinger, and A. Hart, *International Handbook of Educational Leadership and Administration*, pp. 395-418. Dordrecht, The Netherlands: Kluwer.

Fullan, M.G. (1993). *Change Forces*. London: The Falmer Press.

Geijsel, F. (1994). *Het innovatief vermogen van scholen in het basisonderwijs [The innovative capacity of primary schools]*. Nijmegen, The Netherlands: University, Departement of Social Sciences.

Geijsel, F., Berg, R. van den, and Sleegers, P. (1998). The innovative capacity of schools in primary education: A second qualitative study. *International Journal of Qualitative Studies in Education*, in press for Fall 1998, accepted.

Gronn, P. (1996). From transactions to transformations. A new world order in the study of leadership? *Educational Management & Administration, 24* (1), 7-30.

Gronn, P., and Ribbins, P. (1996). Leaders in context: postpositivist approaches to understanding educational leadership. *Educational Administration Quarterly, 32* (3), 452-473.

Guskey, T. (1988). Teacher efficacy, self concept, and attitudes toward the implementation of instructional innovation . *Teaching and Teacher Education, 4*, 63-69.

Hall, G.E., & Hord, S.M. (1987). Change in schools facilitating the process. Albany, New York: State University of New York Press.

Hallinger, Ph., & Heck, R.H. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995. *Educational Administration Quarterly, 32* (1), 5-44.

Heck, R.H., & Marcoulides, G.A. (1996). School culture and performance: Testing the invariance of an organizational model. *School Effectiveness and School Improvement, 17* (1), 76-95.

Imants, J., Tillema, H.H. & De Brabander, C.J. (1993). A dynamic view of teacher learning and schoolimprovement. In. F.K. Kieviet & R. Vandenberghe (Eds.). *Schoolculture, schoolimprovement and teacher development* (pp. 109-129). Leiden: DSWO Press, Leiden University.

Leithwood, K.A. (1992). The move toward transformational leadership. *Educational leadership, 49* (5), 8-12.

Leithwood, K.A. (1994). Leadership for school restructuring. *Educational Administration Quarterly, 30* (4), 498-518.

Leithwood, K.A. and Stager, M. (1989). Expertise in principals' problem solving. *Educational Administrative Quarterly, 25* (2), 126-161.

Leithwood, K., Tomlinson, D., and Genge, M. (1996). Transformational school leadership. In K. Leithwood, J. Chapman, D. Corson, Ph. Hallinger, and A. Hart, *International Handbook of Educational Leadership and Administration*, pp. 785-840. Dordrecht, The Netherlands: Kluwer.

Louis, K.S. (1994). Beyond 'managed change': rethinking how schools improve. *School Effectiveness and School Improvement, 5* (1), 1-24.

Louis, K.S., Marks, H.M., & Kruse, S. (1996). Teachers' professional community in restructuring schools. *American Educational Research Journal, 33* (4), 757-798.

Mitchell, D.E. and Tucker, S. (1992). Leadership as a way of thinking. *Educational Leadership, 49* (5), 30-35.

Ogawa, R.T. and Bossert, S.T. (1995). Leadership as an organizational quality. *Educational Administrative Quarterly, 31* (2), 224-243.

Peters, V., Wester, F., and Richardson, R. (1989). *Kwalitatieve analyse in de praktijk en Handleiding bij Kwalitan versie 2 [Practising qualitative analyses and handbook of Kwalitan version 2].* Nijmegen, The Netherlands: University, Department of Methodology.

Pounder, D.G., & Young, I. Ph. (1996). Recruitment and selection of educational administrators: Priorities for today's schools. In K. Leithwood, J. Chapman, D. Corson, Ph. Hallinger, and A. Hart, *International Handbook of Educational Leadership and Administration*, pp. 279-308. Dordrecht, The Netherlands: Kluwer.

Ross, A.A., Swinkels-Kuijlaars, H.P.C., Theunissen, J.J.C.M., Visser, J.J.C.M., Jongmans, C.T., & Geijsel, F. (1996). *Over vernieuwingen gesproken [Talking about innovation].* Wageningen/'s-Hertogenbosch, The Netherlands: University of Wageningen, Department of Agricultural Education/KOMPACTGROEP.

Salisbury, D.F. and Conner, D.R. (1994). How to succeed as a manager of an educational change project. *Educational Technology, 34* (6), 12-19.

Senge, P.M. (1990). *The fifth discipline: the art and practice of the learning organization,* New York: Doubleday, Currency.

Smaling, A. (1992). Varieties of methodological intersubjectivity: Relations with qualitative and quantitative research and with objectivity. *Quality & Quantity, 26,* 169-180.

Silins, H.C. (1994). The relationship between transformational and transactional leadership and school improvement outcomes. *School Effectiviness and School Improvement, 5* (3), 272-298.

Weber, M. (1964). *The theory of social and economic organization* (A.M. Henderson and T. Parsons, translators). New York: Free Press.

Welten, V., and Janssen, J. (1993). *Teksttabel: een gecomputeriseerde methode voor het analyseren van tekstuele data [Texttable: a computerized method for analyzinf textual data].* Nijmegen, The Netherlands: University, Departement of Psychology of Culture and Religion.